

CLAIM AMENDMENTS

Please amend claims 3, 10, 12, 28, and add new claim 29 as follows:

Claims 1 and 2 (canceled)

3. (currently amended) A method for manufacturing a semiconductor device, comprising:

a step of forming projection electrodes on ~~the a~~ surface at a front side of ~~the a~~ semiconductor substrate,

after said step of forming projection electrodes, a step of forming a surface resin layer on ~~a~~ the surface of ~~a~~ the semiconductor substrate,

a step of forming a back side resin layer on a back side of the semiconductor substrate so that the surface resin layer and the back side resin layer have substantially the same thickness respectively,

a surface grinding step of exposing the projection electrodes from the surface resin layer by polishing or grinding the surface resin layer,

bracing the substrate with the back side resin layer ~~while the performing until after the~~ surface grinding step ~~so as to inhibit warpage of the substrate~~, and

after said surface grinding step, a back side grinding step of thinning the semiconductor substrate by removing the back side resin layer, through polishing or grinding, from the semiconductor substrate provided with the surface resin layer and the back side resin layer, and

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by further polishing or grinding the back side of the semiconductor substrate from which the back side resin layer has been removed.

Claim 4 (original) A method for manufacturing a semiconductor device as claimed in claim 3, further comprising a cutting out step of cutting out pieces of semiconductor devices by cutting the semiconductor substrate along cutting lines after completing the back side grinding step.

Claim 5 (canceled)

6. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 3, in which the surface resin layer is formed in such a manner that the projection electrodes are embedded in the surface resin layer.

Claims 7-9 (canceled)

10. (currently amended) A semiconductor device comprising a solid device including an undivided semiconductor wafer having formed therein a plurality of semiconductor chip elements,

a plurality of first semiconductor chips bonded onto a surface of the solid device, the solid device including a plurality of second semiconductor chips, chip elements respectively

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disposed below the first semiconductor chips such that each the first semiconductor chips and the second respective semiconductor chips elements therebelow define a are separable into separate respective chip-on-chip structures, by a procedure that includes cutting the wafer along cut lines thereof,

projection electrodes for external connection formed on the surface of the solid device, and

a protective resin layer for sealing the surface of the solid device with head portions of the projection electrodes thereon exposed.

Claim 11 (canceled)

12. (currently amended) A semiconductor device as claimed in claim 10, in which the first semiconductor chips are bonded face-down onto the solid device with respective active surfaces of the first semiconductor chips opposed to the solid device.

Claims 13 - 16 (canceled)

17. (previously presented) A method for manufacturing a semiconductor device, comprising:

a chip bonding step of bonding a plurality of semiconductor chips face-down onto a surface of a semiconductor substrate with active surfaces of the semiconductor chips opposed to

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the surface of the semiconductor substrate, in such a manner that the plurality of semiconductor chips and substrate define chip-on-chip structures,

an electrode forming step of forming a plurality of projection electrodes on the surface of the semiconductor substrate,

a resin sealing step of sealing, with a protective resin, the semiconductor chips and the exposed surface of the semiconductor substrate after forming the projection electrodes in such a manner that head portions of the projection electrodes are exposed, and

a cutting out step of taking out individual pieces of chip-on-chip type semiconductor devices by cutting the semiconductor substrate along predetermined cutting lines.

18. (original) A method for manufacturing a semiconductor device as claimed in claim 17, in which the resin sealing step includes an electrode exposing step of exposing the head portions of the projection electrodes by removing a surface layer section of the protective resin.

19. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 18, in which the electrode exposing step includes a chip grinding step of simultaneously polishing or grinding the protective resin and an inactive surface side of the semiconductor chips.

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20. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 17, in which a back side of the semiconductor substrate or an inactive surface side of the semiconductor chips is polished or ground before the cutting out step.

21. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 17, in which each of the projection electrodes are formed with a height such that the top end each projection electrode is between the height of the active surface of the semiconductor chips and a height of an inactive surface of the semiconductor chips.

Claims 22 – 25 (canceled)

26. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 3, further comprising a cutting out step of cutting out pieces of semiconductor devices by cutting the semiconductor substrate along cutting lines after completing the back side grinding step, wherein the surface grinding step includes exposing the projection electrodes from the surface resin layer by polishing or grinding the surface resin layer such that the remaining surface layer has a thickness that is uniform at least within the cutting lines defining the individual pieces cut out of semiconductor devices in the cutting out step.

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27. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 3, wherein said step of forming a surface resin layer includes forming the surface layer with uniform thickness.

28. (currently amended) A method for manufacturing a semiconductor device as claimed in claim 3, wherein the surface grinding step includes grinding the surface resin layer so that the heights of the plurality of projection electrodes ~~is~~ are uniform.

29. (new) A method for manufacturing a semiconductor device as claimed in claim 17, wherein the semiconductor substrate includes a semiconductor wafer and the method is performed a wafer level basis.